Great Lakes Commission
QUALITY MANAGEMENT PLAN

Approval Sheet

Michael J. Donahue - President/CEO

_____

Signature/Date

Julie Wagemakers - GLC Information Manager/Quality Assurance Manager:

_____

Signature/Date

Stuart Eddy - GIS/Systems Specialist:

_____

Signature/Date

Derek Moy - GIS Specialist 2/Internet Specialist:

_____

Signature/Date

_____ - EPA Project Officer

_____

Signature/Date

Lou Blume – US EPA Great Lakes National Program Office Quality Assurance Manager

_____

Signature/Date

Great Lakes Commission
QUALITY MANAGEMENT PLAN

A.1.   Management and Organization

The Great Lakes Commission (Commission) is a binational agency that promotes the orderly, integrated and comprehensive development, use and conservation of the water and related natural resources of the Great Lakes basin and St. Lawrence River. Its members include the eight Great Lakes states with Associate Member status for the Canadian provinces of Ontario and Québec. The Great Lakes Commission has been a pioneer in applying principles of sustainability to the development, use and conservation of the natural resources of the Great Lakes basin and St. Lawrence River. Three principal functions of the Commission include: information sharing among the entire Great Lakes-St. Lawrence community; policy research, development and coordination on issues of regional interest; and advocacy of those positions.

The Commission is uniquely positioned to coordinate, develop, apply and institutionalize a management support system incorporating ecological indicators, monitoring and comprehensive data sets. Project participants consist of scientific and policy experts drawn from key U.S. and Canadian federal agencies, state and provincial agencies, non-governmental organizations, and other interest groups.

A.2.   Quality Assurance

Quality assurance is a top priority at the Great Lakes Commission (Commission). In order to adequately manage the Great Lakes as both an economic and environmental resource, managers and decision makers require the best data available. The Commission serves the eight Great Lakes states and the Provinces of Ontario and Québec.. Accuracy and consistency are of utmost importance to our membership. The Commission is mandated to serve its clients with the most accurate and timely products and services available and does this through constant evaluation and review from its numerous task forces and advisory boards.

In order to assure consistency across the basin and among Commission projects, the following quality management system is in place:
- A quality assurance manager will oversee the quality of all Commission projects.
- Each Commission project may also include a project management team comprised of members from one or more states or the provinces of Ontario and Québec, and from the United States federal agency that has legislative reporting responsibility or regulatory responsibility. The project management team may also include representatives from academic institutions and non-governmental organizations.
- Results from each project will be scrutinized, tested and reviewed by a review team of experts for accuracy and practicality. Review teams will consist of staff from related projects or institutions. For example, a coastal wetland project review team may include the International Joint Commission's Lake Ontario Study or the University of Minnesota's Natural Resources Research Institute indicator development research team.
- The results of each project will be reviewed by at least three qualified independent reviewers.

The Commission's quality management system is designed to protect the integrity of each project. The system will specifically assure that:
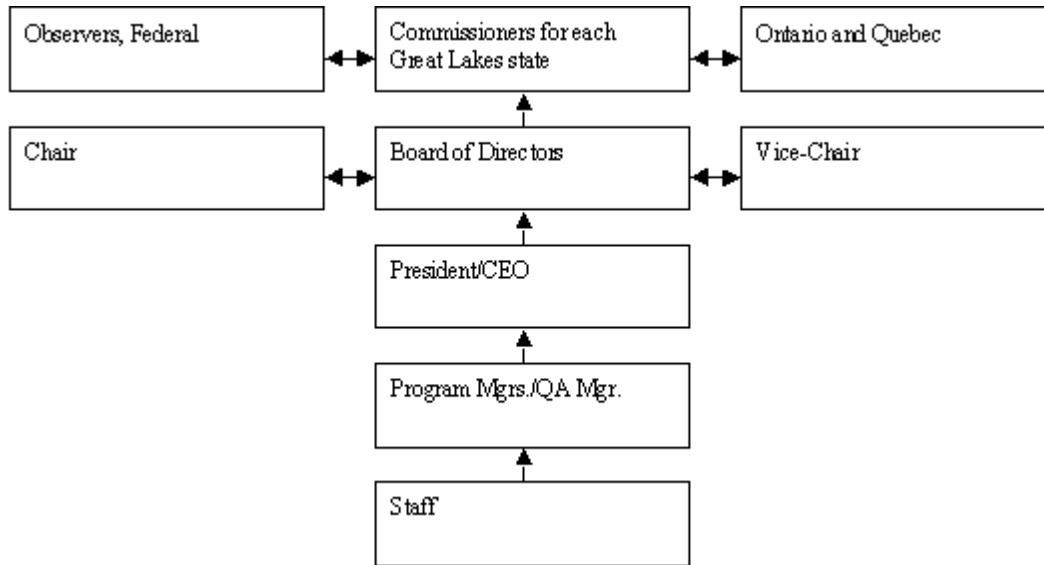- Project results are accurate, reliable, practical and reviewed before release;
- Project results are obtained in a timely manner;
- Project results are designed in a practical way for ease of implementation; and,
- There is a process for solving project problems/issues that may arise throughout the project.

Resources for each project will be allocated quality assurance manager, quality assurance team, staff from related projects, and independent reviewers to ensure the above results.

A.3.   Distribution List

Great Lakes Commission Organizational Chart:

```
┌──────────────────┐      ┌──────────────────────┐      ┌──────────────────────┐
│ Observers, Federal│◄────►│ Commissioners for each│◄────►│ Ontario and Quebec   │
│                  │      │ Great Lakes state     │      │                      │
└──────────────────┘      └──────────────────────┘      └──────────────────────┘
                                      ▲
┌──────────────────┐      ┌──────────────────────┐      ┌──────────────────────┐
│ Chair            │◄────►│ Board of Directors    │◄────►│ Vice-Chair           │
└──────────────────┘      └──────────────────────┘      └──────────────────────┘
                                      ▲
                          ┌──────────────────────┐
                          │ President/CEO         │
                          └──────────────────────┘
                                      ▲
                          ┌──────────────────────┐
                          │ Program Mgrs./QA Mgr. │
                          └──────────────────────┘
                                      ▲
                          ┌──────────────────────┐
                          │ Staff                 │
                          └──────────────────────┘
```

Great Lakes Commission staff and board responsible for different aspects of project quality assurance:

John Hummer – Program Specialist, works on environmental quality issues including wetlands, Lake MI monitoring projects, statewide public advisory councils and watershed training projects. Mr. Hummer supports projects through coordination efforts on correspondence, including returning calls and e-mails, report writing, meeting support, and participates in staff reviews and discussions, Mr. Hummer reports to Ric Lawson.

Ric Lawson – Project Manager, coordinates Lake MI monitoring work at the Great Lakes Commission and heads up watershed training programs across the basin. Mr. Lawson also supports the wetlands project by drafting reports, working with the program manager to design and conduct wetlands meetings, works with all project participants to develop and maintain materials related to a project. Mr. Lawson reports to Julie Wagemakers

Julie Wagemakers – Program Manager, manages various communications and information management projects. Ms. Wagemakers ensures that projects are conducted in a high quality, timely and fair manner. She also works directly with project management teams, Commission Board members and is directly responsible for Commission staff working on projects. Ms. Wagemakers also acts as the Commission's quality assurance manager for the coastal wetlands project. Ms. Wagemakers reports to Michael Donahue.

Dr. Michael Donahue – President and CEO, manages all programs and Commission business. Dr. Donahue oversees projects in terms of ensuring that projects are conducted in a manner consistent with Commission

and its members policies. Dr. Donahue reports to the Executive Committee of the Commission's Board of Directors.

Dr. Samuel Speck – Director of Ohio DNR, manages all departments and budgets for the Ohio Department of Natural Resources. Dr. Speck is the vice chair of the Great Lakes Commission and reports to the Chair, Nathaniel Robinson.

Nathaniel Robinson – Executive Assistant, Wisconsin Technical College System Board. Mr. Robinson is Chair of the Great Lakes Commission.

A.4.   Quality Assurance (QA) Manager

The Commission's Quality Assurance Manager is responsible for implementing the Commission's quality management system as well as the quality of data resulting from Commission projects. Commission staff, project management teams, and independent reviewers are responsible to the QA Manager in that they will assess project work directly related to data collection, analysis, and compilation, and draft quality assurance plans as necessary. The QA Manager is directly responsible to the President and CEO of the Commission, who has final authority on all Commission projects.

A.5.   Technical Activities/Programs

Commission projects involving data collection and/or analysis require quality management controls, and quality assurance plans will include the following components:

Project Management
Title and Approval Sheet
Table of Contents
Distribution List
Project/Task Organization
Problem Definition/Background
Project/Task Description
Quality Objectives and Criteria
Special Training/Certification
Documents and Records

Data Generation and Acquisition
Sampling Process Design
Sampling Methods
Sample Handling and Custody
Analytical Methods
Quality Control
Instrument/Equipment Testing, Inspection and Maintenance
Instrument/Equipment Calibration and Frequency
Inspection/Acceptance of Supplies and Consumables
Non-direct measures
Data Management

Assessment and Oversight
Assessments and Response Actions
Reports to Management
Data Validation and Usability Elements
Data Review, Verification and Validation

Verification and Validation Methods
Reconciliation with User Requirements

Commission projects may require requests for proposals (RFP) that result in a selection of project components from external sources. Proposals resulting from an RFP will undergo several review stages:

- The Program Specialist and Project Manager will preliminarily review and log all proposals received.
- Proposals will be presented to and reviewed by the project management team.
- Proposals qualifying as finalists will be presented to and reviewed by external reviewers. These reviewers will be experts with either an advanced academic degree with 5 years professional experience or professionals with 10 years experience in the discipline.
- The QA Manager will review proposals to determine whether a Quality Assurance Project Plan (QAPP) is needed.
- Upon completion of the reviews, grants will be processed.
- Follow-up reports will be reviewed periodically during the project period.
- Site visits will be conducted periodically or as needed to monitor the quality assurance elements of the workplan.

Commission quality management staff will ensure that quality assurance measures have been followed before the release of any data or reports through regular briefings at subcommittees, project management, and secretariat meetings.

The Commission will conduct a review of the quality management system annually to ensure there are no problems encountered when finalizing project results.

B.1.   Quality System Components
In addition to the procedures for the content of quality assurance project plans (QAPP) and proposals received by way of an RFP, the Commission will assess quality of work of projects through the following:

- Site visits – As described earlier, periodic site visits to ensure projects are adhering to project workplans and QAPPs will be conducted by the Project Manager.
- Project reports – Project reports will be required twice annually, by both the principal project leaders and by Commission staff overseeing quality management issues and project progress.
- Tracking – The Commission QA Manager will be responsible for tracking all correspondence relating to quality system components.
- Approval – All quality checks will be approved by the Commission's QA Manager.

B.2.   Principle Components
Quality System Documentation
All documentation relating to the quality management system, including reviews, reports, Quality Assurance Project Plans (QAPP), and approval sheets, will be kept on file at Commission offices by project. The QA Manager will be responsible for all quality system documentation on behalf of each project, including record keeping, reporting, and signatures for approvals. The Manager is also the point of contact for audits. Commission project staff will support the QA Manager in drafting reports in consultation with principal project leads. Commission management is responsible for acceptance and approval of all quality system documentation. In consultation with the QA Manager, Commission management will review and approve documentation and documentation procedures.

Annual Systems Review
The QA Manager will conduct a review of the Commission's quality management system together with Commission staff and management on a yearly basis. Corrections or adjustments to the system will be

approved by Commission management and board and implemented by Commission staff under the guidance of the QA Manager.

Management Assessments

The QA Manager and the Commission President/CEO will conduct a management assessment as part of the annual review process. This will include a review of all elements of the quality system, including an assessment of effectiveness of project QAPPs and the process for quality system implementation.

Training

EPA offers training in quality management system development, review and documentation. The QA Manager will attend a 1-day EPA QA training course at least once per year. In addition, Commission staff and the President/CEO will participate in training and briefing sessions offered by the Commission QA Manager. The QA Manager will serve as a resource for all Commission projects where QAPPs are required.

Where training is required, it is the Commission's policy to offer training to those individuals that request technical training and have followed up with research on various options. The Commission maintains a highly trained staff in order to provide state-of-the-art project results.

Systematic Planning of Projects

The project manager, project management team, QA Manager and Commission staff are responsible for planning and guiding projects. Project planning and guiding includes project initiation, analysis, design, implementation, and stewardship of all resulting data.

Project Specific Quality Documentation

Project specific quality documentation is the responsibility of the project manager with the project management team with oversight by the QA Manager and the Commission management. Documentation for each project will include work plan, budget, and QAPP if appropriate.

Project and Data Assessments

A standard (with identical elements for each project) checklist will be used for QAPP and quality assurance system reviews (provided earlier in this document). The QA Manager is responsible for consistency of reviews and documentation of reviews for each project. Reports will be forthcoming from the Commission program and project managers and the QA Manager on a project by project basis. Projects are reviewed semi-annually. Data review, compilation, analysis and dissemination is undertaken at the beginning of each project and reviewed on a quarterly basis for appropriateness and accuracy.

Ongoing Commission programs require annual planning meetings. New projects must have management documentation as to how they will serve the Commission's overall strategic plan. The Commission undergoes an annual project and financial audit.

B.3.   Tools for Implementing Components

Quality Management Plan

The Commission's quality management plan is integral to each project and serves as insurance, a guide and a framework for project management. The quality system details all elements of a delivery system for products that are scientifically sound and practical. A process is defined to address how to ensure that project products are consistent and to resolve problems should they arise.

Quality System Audits

An annual review of the quality system includes an audit of both financial and human resources.

Training Plans
Commission staff and the QA Manager will participate in quality management training courses offered by US EPA.

Quality Assurance Project Plans (QAPP)
Quality assurance project plans (QAPP) are implemented to ensure quality results for the project. Project QAPPs, accepted and approved by the QA Manager, are written by project principals. The QA Manager conducts reviews and records documentation.

Data Verification and Validation
Data developed in-house by Commission staff will be compiled and released with FGDC-compliant metadata (Z39.5 compliance). For surveyed data, spatial accuracy will be determined by the capabilities of the GPS unit used to record data points. For data digitized on-screen from digital representations of topographic quadrangles or orthophotography, data error will match that of the source imagery. For data created using a digitizing tablet, a Root Mean Square error of .003 will be considered adequate for digitizing to proceed.

Data created by other agencies will be included in this project only if accompanied by FGCD-compliant metadata which confirms that the data meets Commission standards for this project.

Quality Assurance Project Plan Development
The principal project leaders develop quality assurance project plans. The QA Manager approves all QAPPs. QAPP's must contain appropriate content in the QAPP checklist. The level of detail should be appropriate for the data quality needs of the specific project. The QA Manager must ensure that each project QAPP supports the Commission's quality management plan.

Performance Standards
The QA Manager is responsible for staff evaluations at the Commission and will conduct an evaluation of project staff and the project management team on an annual basis. Commission staff evaluations include performance ratings for project work, implementation of the quality management system, and accomplishment of tasks described within the system. Within the review of project staff performance, requirements include full disclosure of project files including project staff evaluations. All project documentation is disclosed to the Commission for auditing and reporting requirements.

C.1.   Personnel Qualifications and Training

Employee Training
Employees of the Commission may, at the discretion of the President/CEO and QA Manager, receive training and instruction to their current responsibilities and or advancement to more responsible positions within limitations of the project budget. To the extent possible, all training deemed required for the position shall be conducted during working hours.

Management staff are required to provide annual reviews of staff performance. These evaluations include training assessments and implementation measures.

Certifications
The QA Manager must approve all applications for licenses, certifications or other regulatory qualifications needed to conduct specific projects. These costs are borne by project budgets. The QA Manager must also ensure that all appropriate licenses are obtained for collecting any form of natural resource (collecting permits) or handling of hazardous materials (such as preservatives that may be used on samples collected).

D.1.   Procurement of Items and Services

Request for Proposals (RFP)
A request for proposals will detail requirements for collection, analysis and consolidation of data. Proponents to the RFP must not only detail a work plan for accomplishing the proposal, they may be required to develop a QAPP. Within the QAPP they must indicate a need for any procurement of equipment or training or other related services. QAPP's are reviewed and approved by the QA Manager and the project team.

Contracted/Subcontracted Activities
All proposals requesting contract or subcontract activities will be reviewed and approved by Commission staff and the project management team. Contractors and subcontractors automatically have the same responsibilities of project teams, including development and implementation of a QAPP, and observation of certification and training requirements.

D.2.   Procurement document approval

Commission Policy
The Commission will not discriminate against any person, business or organization because of race, color, religion, sex or national origin of its employees or its ownership. The Commission will take affirmative action to ensure that all procurement of goods and services is done without regard to race, color, religion, sex or national origin.

Purchase of Services, Materials, Supplies or Equipment
The Commission is exempt from all state and federal taxes. Vendors shall be advised not it include any tax on invoices.

Restricted fund purchases must be made in compliance with the terms and conditions of the funding source.

The University of Michigan general stores shall serve as the primary source for purchases. All Purchases made through the University of Michigan must be approved by the President/CEO. The Purchase of items from the University of Michigan at another vendor must be approved by the President/CEO.

Procurements not made through the University of Michigan must follow a competitive bid process. In all cases, affirmative action processes shall be followed. When preparing the requisition for materials, supplies, equipment, etc…, the requester must include a detailed description of the goods or services along with an estimate of the price. The requisition should also include a date when delivery is required.

If any vendor is habitually late in making deliveries, he/she may be removed from any further consideration as a source for Commission purchases.

Purchases not exceeding $25.00 – Supervisory personnel requiring materials, supplies or services can purchase the items without approval of the President/CEO. An invoice for the purchase must be secured in the name of the Commission and forwarded to the Financial Officer for payment, or the employee may pay for item (s) purchased, secure a receipt and file for reimbursement.

Requests for purchases between $25.00 and $500.00 shall be submitted to the President/CEO for approval in writing. The Financial Officer will prepare a purchase order and solicit at least three quotations. This can be done by telephone as long as records are maintained.

Purchases between $500.00 and $7,500.00 must be approved in wiring by the President/CEO. Upon receipt of such approval, the Financial Officer will prepare a purchase order detailing goods and services requested.

The request for bids will be sent to appropriate vendors. Efforts should be made to obtain at least three bids. Bids must be made in writing. The lowest cost qualified bidder will be selected.

Purchases of goods and services over $7,500 must be approved by formal action of the Board of Directors. Upon Board approval to proceed, the financial officer shall prepare invitations for bids for distribution. Requests for bids shall be published in a manner likely to attract prospective bidders. There shall be at least 20 days between publication and the date bids are due.

Award of a contract will be made to the bidder with the lowest responsive cost. If, in the discretion of the President/CEO, there are no acceptable bids, the Commission can re-advertise.

For general fund expenditures:

The Commission may, suspend and waive the above provisions requiring competitive bids whenever:
- The purchase is to be made from or the contract is to be made with the federal or any state government or any agency or political subdivision thereof, or pursuant to any open and bulk purchase contract of any of them;
- The public or agency requires the immediate delivery of the articles or performance of the service;
- Only one source of supply is available
- The equipment to be purchased is of a technical nature and the procurement thereof without advertising is necessary in order to assure standardization or equipment and interchangeability of parts in the public interest; or
- Services are to be provided of a specialized or professional nature.

The financial officer shall provide the necessary forms required to implement the policies contained herein.

Technical and Quality Requirements
All requests for equipment including technical requests for software, GPS, nets etc…, are reviewed and approved by the project management team and the Commission. The project management team assesses level of quality of procurement items.

Supplier Responsibilities
Within the project planning stage of each proposal, project teams must specify specific suppliers for procurements indicated in their proposals. The Commission and project management team will approve all suppliers.

Supplier Conformance
It is the responsibility of the project principals to ensure that suppliers are providing exactly what procurements have requested.

D.3.   Solicitation Response Approval
Technical and Quality Requirements
Proposals will be selected by the project management team and grants will be awarded to those applicants that satisfy technical and quality requirements as stated within the RFP.

EPA Approval
For projects funded by EPA, suppliers must comply with EPA requirements as defined in the Federal Regulations.

Acceptable Quality
Ensuring that procured items and services are of acceptable quality includes the review of objective evidence of quality for applicable items and services furnished by suppliers and subcontractors, source selection, source inspections, supplier audits, and examination of deliverables.

Approval of Supplier QMPs/QAPPs
It is the responsibility of the QA Manager to review and approve procedures for mandatory quality-related documentation from suppliers.

EPA approval of Supplier QMPs/QAPPs
The review and approval by the Commission of mandatory quality-related documentation from suppliers will be consistent with Chapter 2.2 of EPA Order 5360, the EPA Contracts Management Manual (EPA Order 1900), and the Federal Acquisition Regulations Office of Federal Procurement Policy.

E.1.   Documents and Records
Quality Related Documents
Program managers and quality management staff ensure that records and documents accurately reflect completed work through continual communication, data checking and oversight of all Commission projects. All Commission reports are approved by the President/CEO, all financial statements are approved by the financial officer and ultimately assessed by the Commision's auditors.

Records Reflect Work
Maintaining documents and records is the responsibility of all staff. A chronological file is kept of all correspondence the Commission receives and sends, including faxes and most email (email is backed up on our server). Access to records is at the discretion of the President/CEO. All contracts including those that cover loss or damage (insurance-based) are negotiated by the President/CEO and approved by the Board of Directors. The Commission maintains archives of all materials at an offsite secure location.

Chain of Custody
N/A

EPA Requirements for Documents and Records
Commission financial – payables are archived for a minimum of seven years, general accounting/general ledger records date back to the establishment of the Commission, payroll is archived for a minimum of seven years. Commission project files – are archived for a minimum of seven years.

All confidentiality and evidentiary procedures are at the discretion of the Commission President/CEO.

F.1.   Computer Hardware and Software
All systems development must be approved by the Commission program specialist for systems. Installation is either through a contracted service, or when available, through Commission staff. Server configuration is through contracted services. Equipment testing is accomplished through a combination of in-house expertise and contracted services. Documentation of Commission equipment and use is available from the program specialist, systems.

Computer hardware systems are primarily Dell or Gateway units purchased through an account maintained by the University of Michigan. Other peripherals are name-brand products purchased as needed by this or other projects under the direct supervision of Commission GIS and data processing staff.

All computer operating system and most application software are commercially available, industry-standard products. Customizing to enhance productivity within a given application are carried out using the macro languages and techniques designed for that particular application. When required, beta testing of products before purchase will be implemented if there is any question of performance.

Assessments of equipment performance take place on a monthly basis. Recommendations for upgrades, enhancements or other improvements are subject to program manager and QA Manager approval, and the President/CEO authorizes any purchases required by these improvements.

The Commission tracks all equipment and maximizes performance through direct contact with staff, inventory and documentation.

Regular backups of hard drives and servers assists in data storage and management. Active data files stored on the server are copied to magnetic tape in case of hard drive failure, and copies of completed data files are archived to CD-ROM for long-term storage and for distribution to other agencies.

Impact of Change to User Requirements
Should there be a requirement for updating or changing any systems requirements, this will be addressed and approved by the QA Manager. Currently, all major software for office documentation is provided in at least two of the most common formats (i.e. MS Word and WordPerfect, Netscape and Internet Explorer, etc…). All Commission-related software is industry standard (ARC Info, ARC IMS, etc…).

Hardware and Software Standards
All hardware and software implemented at the Commission is under annual review and assessment. Should hardware or software not perform to Commission staff standards, equipment will be updated or replaced at cost to the supplier, the Commission or provisions made under the particular project.

Information Management Compliance
Data developed in-house by Commission staff will be compiled and released with FDGC-compliant metadata (Z39 compliance). Data created by other agencies will be included in this project only if accompanied by FGCD-compliant metadata which confirms that the data meets Commission standards for this project.

FGDC – federal geographic data committee standards are listed at
http://www.fgdc.gov/standards/status/csdgm_rs_ex.html (extensive)

Developed, Installed and Tested Documenting Software
N/A

EPA Standards for Information Resources Management
For geographical standards see above. The Commission maintains Vshield virus protection software. Our Internet security is covered under the Commission contract with Merit Networks and is subject to their firewalls or lack thereof (basically we can block any address from entering our system as per our contract agreement). EPA has full access to all Commission hardware and software documentation and agreements.

G.1.   Planning
Program Manager – oversees cradle to grave operations of a project. Which includes approval of all communications and deliverables including data collection, compilation and analysis. This individual is responsible for all internal and external reviews including advisory boards and task forces.

Sponsoring organization – For some projects, the sponsoring organization may participate in all stages of the project (e.g., EPA cooperative agreements). For other projects, the sponsoring organization has oversight responsibility only (e.g., EPA grant awards).

Project personnel – Commission staff perform data collection, compilation and analysis level tasks and assist the Program Manager in meeting the goals of the project and the goals of the quality management plan.

Stakeholders – Assess the relevancy of project work and advise on development and process. This group also participates in quality management implementation through recommendations to the Program Manager.

Scientific experts – Project participants are selected for both their level of expertise, including years of experience, and their ability to work collaboratively with numerous partners. Experts will be expected to standardize data collection and develop evaluation and review procedures.

Project Goals/Objectives and Issues Addressed
The project management team, with all appropriate personnel as described above, will formulate appropriate goals and objectives. Data collected, compiled and analyzed will be required to be statistically defensible and be in a standard format for modeling purposes.

Project Schedule
Individual project work plans will specify the project schedule. Schedules will differ for each project, but each will contain many or all of the following elements:

Project Scoping
Development Management Infrastructure
Establish Protocols for Funding Program
Manage Small Grant/Pilot Studies Program
Design Management Support System
Secure Supplemental Funds
Provide Project Secretariat Services
QA Assessment
Evaluation of Results

The Commission has direct oversight of all project committees.

Support to Project Objectives
Data collection, analysis and compilation is often required and will therefore directly support project objectives. Database will serve as an information management tool and be valuable throughout project time frames and beyond. Quality requirements for data usage include quality checks of data before being released. As part of QAPP checks, data submitted as results to projects are tested and validated by Commission staff, the project management team, and the QA Manager.

Specifications of Performance Criteria for Measuring Quality
Quality measurements will be assessed at the beginning of each project, and will therefore be project specific. Performance criteria will include:
    Data accuracy
    Meets the goals of the project
    Meet deadlines
    Issue resolution
    Within budget
    Personnel, supplier and contractor evaluations
    Meets all QAPP requirements
    Complies with the Quality Management Plan
    Report writing
    Access to research data
    Future considerations/recommendations
    Practical
    Reviews were positive and recommended acceptance

Approved Planning and Technical Documents
Many projects are required to follow approved QAPPs, and revise or update them according to periodic reviews by the Commission, the project management team and the QA Manager. QAPPs required for EPA projects must adhere to the elements listed in EPA's Region 5 quality planning document.

Review Procedures
The Commission is responsible for all review procedures as outlined in its Quality Management Plan.

Procedure Documentation

The Commission is responsible for all project documentation including procedures relevant to the project. All procedures are reviewed under the quality management review process. Release of procedures is consistent the project work plan. Verification of any changes or updates to procedures are the responsibility of the QA Manager. The QA Manager is also responsible to report their findings to the appropriate sponsoring organization. The project management team will review statistical models.

A procedures document will be developed for data collection, compilation and analysis for all project data. This document will be reviewed on an annual basis. Policy associated with procedures will be reviewed by the Commission who in turn will assure that they fall within Commission guidelines. The Commission will approve all updates, revisions or changes to policy and procedures related to each project and will keep records of these activities for up to five years after project completion.

I.6. Assessment and Response
Annual Assessment
The Commission's quality system is assessed annually as part of its annual strategic planning process. Project personnel update the President/CEO on a bi-weekly basis, including quality management activities. Assessors of quality performance include the project secretariat, project chair, project management team, subcommittee chairs and stakeholders to the project. Assessments of data, process and work performance will ultimately reside with Commission staff. Assessors may chose their own assessment tools including geographic reference, adherence to standards set in procedures document and accepted use policies.

Peer reviews – will be conducted of all RFP drafts, proposal submissions and review of all deliverables.
Technical reviews – project management team members will be required to provide technical review of each others work
Performance evaluations – will be conducted at the Commission level and at various stages of the project, over an annual and semiannual time frame.
Data quality assessments – will be administered and determined relevant by Commission staff.

The project management team is established and designed to be an open forum to conduct project assessment from a wide variety of participants. Problem identification and resolution building is within the purview of this team. Effectiveness of recommendations and solutions will be weighed at the project secretariat level. Project management team members may either approach the Chair or the secretariat with reviews and responses to findings related to assessment of quality performance.

Assessment Documentation
A one-page report is developed for each assessment and serves as an update for Commission management and the project management team. Assessment tools are selected by the QA Manager in consultation with the project management team and will include:

    Ease and frequency for data collection
    Recommendations for data collection
    Data analysis procedures
    Database review
    Recommendations for frequency of review
    Review of practicality for implementation
    Review of implementation
    Reviews beyond the project period
    Review of effectiveness
    Review of roles of project participants
    Review of agency cooperation and mandates
    Follow up recommendations

Assessing the Assessors
Assessors are selected by reviewing expertise, level of education or training and on whether they stand to gain from assessing elements of the project. The QA Manager selects assessors on recommendations from the project

management team and members of the stakeholder group. The QA Manager will assess qualifications of assessors according to components of the project that they will be assessing (i.e. if they are testing a statistical model, they should have a strong background in statistical applications/modeling). To ensure there are no conflicts of interest, no assessor will be reviewing his/her own work or the work of a colleague with whom they may be engaged on a project.

Assessor Checklists
Each assessor will be provided with a checklist including elements listed above, from the QA Manager. The QA Manager will act as a resource for any questions/issues that arise as a result of the assessment. Likewise, for EPA projects, the EPA Quality Assurance Manager will act as a resource for the Commission QA Manager. All corrective action is at the discretion of the President/CEO of the Commission. And in this role will address any disputes encountered as a result of assessments.

Corrective Actions
Corrective actions will take place as a result of the assessments and be accompanied by a recommendation for corrective action that has been approved by the QA Manager and the Commission President/CEO. Corrective action will be made promptly so as not to cause further delay to the project's progress. An interim assessment review will be conducted two to four weeks after the corrective action has taken place to determine whether the situation has been rectified and to assess whether further action needs to take place. The QA Manager is responsible for documenting any such action.

Disputes
Should there be a dispute after corrective measures have been made, the Commission will confer with the project management team on steps to ensure project integrity.

J.1. Quality Improvement
The Commission President/CEO is responsible for review, approval, and implementation of the quality system. Working together with staff, the President/CEO responds to problems identified within the project and works to identify solutions and implement them. All actions will be documented. The President/CEO will act from a consensus driven process and track each issue through to an acceptable level of completion.

Continuous Quality Improvement
The QA Manager is responsible for leading the effort to identify, plan, implement and evaluate the effectiveness of quality improvement activities. Quality improvement activities may include:

> QMP
> QAPP
> Checklists
> Evaluations
> Assessments
> Data collection, management, storage and access
> Evaluation
> Planning procedures
> Technical procedures
> Training procedures
> Documentation and record keeping
> Staffing
> Related project elements

A checklist for quality improvements will include the above and be circulated by the QA Manager to Commission staff and the project management team. This checklist will be circulated on an annual basis.

Conditions for Quality
Prevention – The Commission President/CEO delegates decisions related to quality management to the QA Manager. Through implementation of the quality management plan including regular assessments and reviews of QAPP's and

other procedural practices, issues should be minimized. Open and frequent communication with all project staff should prevent misunderstandings and misconceptions and also highlight expectations.

Nature and extent – The QA Manager, in consultation with the President/CEO, will determine the nature and extent of action to be taken after an occurrence has been noted or disclosed through a site visit or regular review and assessment. All occurrences will be documented. Any corrective action (as determined necessary – described above) will be documented.

Correction – Any corrective actions will be taken as soon as necessary (see above). Through regular review and incorporation of enhancements and frequent communication – reoccurrence should be kept at a minimum.

Documentation – The QA Manager tracks all corrective actions.

Tracking to closure - The Commission conducts bi-weekly staff meetings to ensure that problems encountered are identified early and dealt with immediately. All issues not addressed within a two-week time frame will be documented and tracked to completion.

Communications – The QA Manager will encourage Commission staff and other project participants to communicate and document all project activities they are involved in, including supplier reviews, evaluations and other management system elements. They will identify process improvement opportunities as well as offer solutions to problems and forward these recommendations to the QA Manager.

Attachments
QAPP Checklist – see http://www.epa.gov/glnpo/fund/qachcklst.html